

viewLinc 5.1 – Security with voice & SMS notification services

viewLinc 5.1 is able to send alarm notifications via SMS and voice calls using an Internet-based service called Twilio. Since communication between viewLinc (typically resident within the corporate network) and Twilio (external to the network) presents an attack surface for malicious individuals, it is important to secure this connection.

Architecture

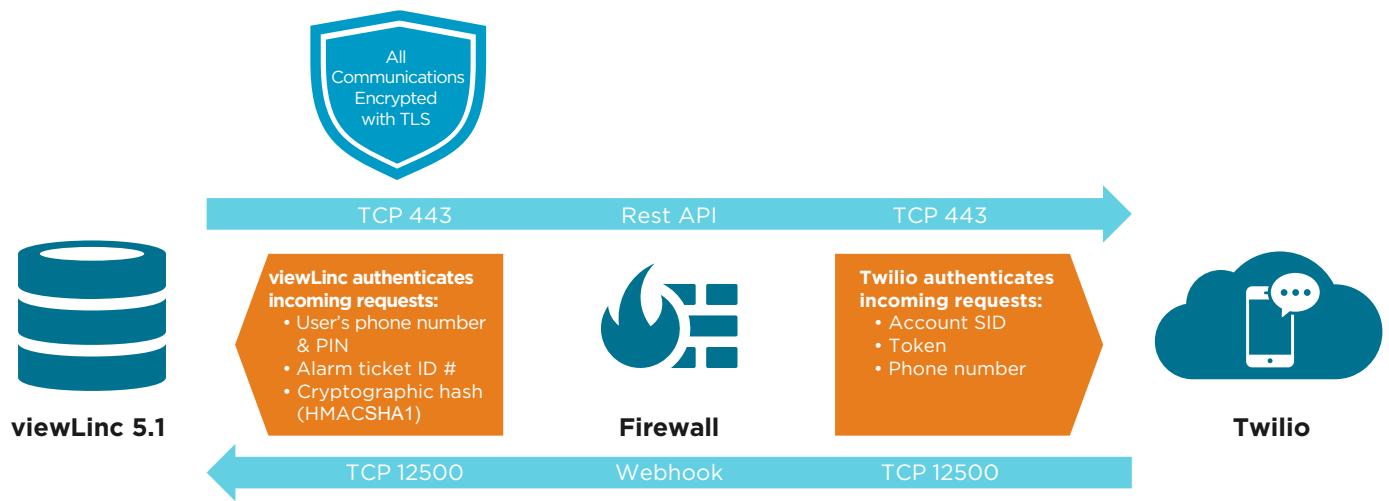
In most cases the viewLinc software is installed on a server (physical or virtual) within the corporate network. It collects and processes data from measurement devices that are also located within the network. When operating in this mode wherein all system resources are internal to the corporate network, security is relatively straightforward and typically consists of preventing unauthorized access to the network.

In order to utilize viewLinc's SMS and Voice Call notification features, viewLinc must be able to communicate with a service that is external to the network. In some cases this communication must be bi-directional, meaning that some communications will be initiated from the Internet and pass through your firewall to reach the viewLinc server. It is therefore important to understand the security features of this communication in order to protect your network.

viewLinc with Twilio Service

- *Twilio enables SMS and Voice messaging from viewLinc*
- *Create an account at <https://www.twilio.com/try-twilio>*
- *Purchase a phone number that Twilio will use for calls and SMS*
- *In viewLinc under System Preferences > SMS/Voice Settings, enter your Twilio account SID, authentication code, and phone number*
- *In viewLinc under System Preferences>General, enable SMS/Voice Alarm Acknowledgment if desired*





Security

All communications between viewLinc and Twilio are encrypted via Transport Layer Security (TLS).

Outgoing communication from viewLinc to Twilio consists of API calls to initiate the sending of SMS or Voice messages. Incoming communication to viewLinc from Twilio is of two types: alarm acknowledgement and voice notification processing (resulting in instructions to read the alarm message after a recipient has answered the call, call the next recipient, etc).

viewLinc listens for incoming Twilio communications over TCP port 12500 and uses this port for nothing else. Therefore, the only user function that is available to traffic on this port is Alarm Acknowledgement. viewLinc authenticates the validity of incoming alarm acknowledgement requests by a variety of means in order to ensure that the requests are legitimate. The user's phone number and PIN as well as the alarm ticket ID from the alarm notification are all needed. Without these pieces of information, the request is discarded.

As of viewLinc version 5.1.3.1622, viewLinc also uses signature validation to ensure that the HTTP requests to viewLinc are indeed coming from Twilio, and not a malicious third party. To allow this level of security, communication requests are cryptographically signed using Hash-based Message Authentication Code (HMAC-SHA1) with your Twilio authentication token as the key. Since only viewLinc and Twilio have this key and it is never transmitted, messages from any source other than Twilio will not be encoded correctly and will be discarded.

Additional Security Options

If the default security implementation of the viewLinc and Twilio integration does not meet your security requirements, you may want to explore some of the options offered by Twilio for an additional fee.

VPN - Twilio offers a service to establish a secure private tunnel between your viewLinc server and the Twilio web service. With a VPN, no ports need to be opened on the firewall to allow externally initiated communications into the local network.

Static Proxy - Twilio offers a static IP address for the web service in their Security Edition. This enables the creation of targeted firewall rules restricting incoming communications from the Internet to a single IP and port (and excludes everything else).

VAISALA

Please contact us at
www.vaisala.com/contactus



Scan the code for more information

Ref. B212109EN-B ©Vaisala 2021
 This material is subject to copyright protection, with all copyrights retained by Vaisala and its individual partners. All rights reserved. Any logos and/or product names are trademarks of Vaisala or its individual partners. The reproduction, transfer, distribution or storage of information contained in this brochure in any form without the prior written consent of Vaisala is strictly prohibited. All specifications — technical included — are subject to change without notice.

www.vaisala.com